

## **REMARKS**

The above Amendments and these Remarks are in reply to the final Office Action dated June 5, 2006. Claims 1, 2, 4-12 and 17-30 were pending in the Application prior to the outstanding Office Action. Claims 1 and 24 are being amended. No claims are presently being canceled or added. Accordingly, claims 1, 2, 4-12 and 17-30 remain for the Examiner's consideration, with claims 1, 9, 17 and 24 being independent. Reconsideration and withdrawal of the outstanding rejections are respectfully requested.

### **I. Claim Rejections Under 35 U.S.C. § 103**

Claims 1, 2, 4-12 and 17-30 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,009,455 to Doyle et al. (hereafter "Doyle") in view of U.S. Patent No. 7,003,547 to Hubbard (hereafter "Hubbard").

### **II. Discussion of Claims**

#### **B. Claims 9-12**

**Claim 1** specifies that "the assigning part sends an idle assignment signal to each service provider from which the request work signal is received but for which there is not a task available from the job management apparatus, the idle assignment signal informing the service provider to not send further request work signals to the assigning part until the service provider receives a work available signal from the assigning part, thereby freeing up resources of each service provider for which there is not a task available from the job management apparatus to perform other tasks not delegated by the job management apparatus".

In the Office Action, it was asserted that column 4, lines 10-29 and column 6, lines 15-30 of Doyle teaches these features of claim 1.

Column 4, lines 10-29 (and more specifically, lines 25-27) of Doyle states that if "the master control program has no work available for the available client, an optional idle response (not shown) may be sent." However, Doyle does not teach or suggest that its "idle response" informs the available client to not send further request work signals until the client receives a work available signal from the master control program.

Column 6, lines 15-30 of Doyle states that after an available client is selected by the master control program, the available client then becomes a selected client that is then controlled by the master control program. In other words, this portion of Doyle states that a client, for which work is available, can be selected by and controlled by the master control program (i.e., this portion of Doyle is not related to clients for which work is not available). Because this portion of Doyle clearly relates to how an available client is controlled after it is selected for use by the master control program, it is not possible that this portion of Doyle can teach or suggest that the "idle response" of Doyle informs an available client, for which no work is available, to not send further request work signals until the client receives a work available signal from the master control program.

The "idle response" of Doyle appears to only inform a client that work is not presently available. Accordingly, available clients in Doyle are likely to keep sending availability signals to the master control program, wasting some of the client's resources. In contrast, the idle assignment signal of claim 1 will cause a service provider for which work is not available to not send further request work signals to the assigning part until the service provider receives a work available signal from the assigning part.

To further distinguish claim 1 from Doyle, claim 1 has been amended to specifically state that "the assigning part sends a work available signal to each service provider that was previously sent the idle assignment signal but for which a task is available from the job management apparatus, to thereby inform each service provider that had stopped sending request work signals to the assigning part to thereafter send a work request signal when the service provider is available to perform work." As explained above, the idle assignment signal of claim 1 will cause a service provider for which work is not available to not send further request work signals to the assigning part until the service provider receives a work available signal from the assigning part. Accordingly, after the assigning part sends an idle assignment signal to a specific service provider, the assigning part will not know whether that specific service provider is available to perform work at a later time, when work appropriate for that specific service provider becomes available. To overcome this problem, "the assigning part sends a work available signal to each service provider that was previously sent the idle assignment signal but for which a task is available from the job management apparatus, to thereby inform each service provider that had stopped sending request work signals to the

assigning part to thereafter send a work request signal when the service provider is available to perform work." A similar feature, to that added by amendment to claim 1, was (and still is) included in claim 17 (i.e., "sending a work available signal to each service provider that was previously sent the idle assignment signal but for which a task is available from the job management apparatus").

In the rejection of claim 17, it was asserted that column 6, lines 15-30 of Doyle teaches the sending of a work available signal to each service provider that was previously sent the idle assignment signal but for which a task is available from the job management apparatus. As just explained above, this portion of Doyle states that a client, for which work is available, can be selected by and controlled by the master control program. In contrast, the feature added to claim 1 by amendment will only cause a service provider that had stopped sending work available signals (because work was not available for that service provider), to again start sending work available signals to the assigning part. The feature added to claim 1 by amendment does not say that sending a "work available signal to each service provider that was previously sent the idle assignment signal" causes the service provider to be selected, and thereafter controlled. Rather, it is possible that the service provider that receives the work available signal from the assigning part is not presently available to perform work, or that even if it is available, it may not be selected if a better candidate is also available.

Hubbard does not teach or suggest the above mentioned deficiencies of Doyle.

For at least the above reasons, Applicants respectfully request that the rejection of claim 1 be reconsidered and withdrawn.

**Claims 2 and 4-8** are believed to be patentable for at least the reason that they depend from claim 1, as well as for the additional features that they add to claim 1. For example, **claim 5** is discussed below.

**Claim 5** specifically requires that "the work request signal specifies a minimum frequency at which the status report signal will be sent to the contact part" from a service provider. Claim 5 depends from claim 4, which depends from claim 1. Claim 5 requires that the "work request signal" specifies a minimum frequency at which a service provider will send a "status report signal" to the contact part. Claim 4 specifies that the "status

report signal" updates the status of the task being performed by the service provider. Claim 1 specifies that this "work request signal" is received by an assigning part from a service provider that is available to perform work. So, in summary, claim 5 requires that the work request signal (received from a service provider), also includes the minimum frequency at which the service provider (to which the task is delegated) will update the status of the task. As explained on page 22, beginning at line 8, this enables the contact part to know when to expect "status update signals". By knowing this minimum frequency, the contact part can determine when there may have been a malfunction with a service provider because a "status update signal" was not received from the service provider within the minimum frequency. The contact part can then take appropriate action (e.g., check on status and/or reassign task to another service provider).

It was alleged in the Office Action that column 9, lines 8-25 of Doyle teaches these features of claim 5. However, this portion of Doyle explains how a job number is assigned to a job after a submitter submits a job to be processed. After the number is assigned, the submitter sends a "Submit message, i.e., a job request signal 40." The contents of the Submit message are then stored as a script. Thereafter, each line of the script is executed, one at a time, in response to periodic incoming SubmitterTick messages.

Doyle does state that "[a]fter the CALCULATE script line is executed, subsequent SubmitterTick messages cause a job status message to be returned [which] will continue until the job is completed, or a Cancel message is received from the submitter" (see Doyle, column 9, lines 36-40). The SubmitterTick messages appear to be sent from a submitter to the master control program. Thus, while status messages may be issued in response to a SubmitterTick messages, the SubmitterTick messages are clearly not work requests signals that are received from a client that is available to perform a task, where the work request signals specifies the minimum frequency at which the client will send a status message (if that client is selected to perform a task).

Doyle also states that "[i]f the master control program does not receive timely status messages from a selected client, it will deem that selected client off-line and reassign the associated segment group package to another available computer" (see Doyle, column 7, lines 8-14). However, Doyle does not state that the that the master control programs determines whether a status message is timely based on a minimum

frequency that the client will provide status messages, where the minimum frequency is specified in a work request signal received from a client.

Accordingly, for these additional reasons, Applicants again respectfully request that the rejection of claim 5, and claim 6 which depends from claim 5, be reconsidered and withdrawn.

#### **B. Claims 9-12**

Independent claim 9 requires "a plurality of provider managers, each in communication with the job management apparatus and in communication with a corresponding subset of the plurality of service providers which monitors the tasks being performed on the service providers and provides status information to the job management apparatus, wherein at least one said subset of the plurality of service providers includes multiple service providers." This is shown, e.g., in FIG. 2 of the present application. In this arrangement, a first provider manager (e.g., Provider Manager A labeled 214 in FIG. 2) can communicate with and monitor a first subset of service providers (labeled 206a - 206c in FIG. 2) that perform similar functions to one another, while a second provider manager (e.g., Provider Manager B labeled 216 in FIG. 2) communicates with and monitors a second subset of the service providers (labeled 208a - 208c in FIG. 2) that perform similar functions to one another (but whose functions are not similar to the functions performed by the first subset of service providers). Thus the system of claim 9 provides for more distributed processing, which should reduce the likelihood of backlogs of work developing (see page 15, line 16 - page 16, line 2 of the present application).

It was alleged in the Office Action that column 9, lines 23-40 and column 4, lines 10-29 of Doyle teaches these features of claim 9. Further, it is asserted in the Office Action that the job computation module 14 of Doyle teaches the claimed job management apparatus, and that the master computer 5 of Doyle teaches the claimed job management apparatus. However, there is no teaching or suggestion in Doyle that a plurality of job computation modules 14 are each in communication with the master computer 5. Further, there is no teaching or suggestion in Doyle that each (of a plurality) of job computation modules 14 is in communication with a corresponding subset of the plurality

of clients. Further, Doyle does not teach or suggest that at least one subset, of a plurality of subsets of the plurality of clients, includes multiple clients.

Rather, Doyle appears to teach that a single computation module 14 is in communication with the master computer 5, and in communication with all of the available clients (not subsets of the clients). In other words, Doyle does not teach or suggest multiple computation modules, each in communications with a subset of the client.

For at least the reasons set forth above, Applicants respectfully request that the rejection of claim 9 be reconsidered and withdrawn.

#### **C. Claims 17-23**

Independent claim 17 includes the step of "sending an idle assignment signal to each service provider from which the request work signal is received but for which there is not a task available from the job management apparatus, the idle assignment signal informing the service provider to not send further request work signals to the job management apparatus until the service provider receives a work available signal from the job management apparatus, thereby freeing up resources of each service provider for which there is not a task available from the job management apparatus to perform other tasks not delegated by the job management apparatus." Claim 17 also includes the step of "sending a work available signal to each service provider that was previously sent the idle assignment signal but for which a task is available from the job management apparatus." For similar reasons to those discussed above with regards to claim 1 and its dependent claims, Applicants assert that claim 17, and its dependent claims 18-23 are patentable over the applied references.

#### **D. Claims 24-30**

Independent claim 24 states that "the assigning software component sends an idle assignment signal to each service provider that sent a request work signal but for which there is not a task available from the assigning software component, the idle assignment signal instructing the service provider to not send further request work signals until the service provider receives a work available signal from the assigning software component, thereby freeing up resources of each service provider for which there is not a task

available from the assigning software component to perform other tasks not delegated by the assigning software component." Claim 24 was also amended to state that "the assigning software component sends a work available signal to each service provider that was previously sent the idle assignment signal but for which a task is available from the job management apparatus, to thereby inform each service provider that had stopped sending request work signals to the assigning software component to thereafter send a work request signal when the service provider is available to perform work."

For similar reasons to those discussed above with regards to claim 1 and its dependent claims, Applicants assert that claim 24, and its dependent claims 25-30 are patentable over the applied references.

### III. Conclusion

In light of the above, it is respectfully requested that all outstanding rejections be reconsidered and withdrawn. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

No fee is believed due in connection with this Reply. However, the Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this reply, including any fee for extension of time, which may be required.

Respectfully submitted,

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By: Jeffrey R. Kurn  
Jeffrey R. Kurn  
Reg. No. 41,132

FLIESLER MEYER LLP  
Four Embarcadero Center, Fourth Floor  
San Francisco, California 94111-4156  
Telephone: (415) 362-3800  
Facsimile: (415) 362-2928  
Customer No. 23910